

ABSTRACT OF THE DISCLOSURE

Perspective distortion is estimated in a digital document image by detecting perspective pencils in two directions, one being parallel to text lines, 5 and the other being parallel to the boundaries of formatted text columns. The pencils are detected by analyzing directional statistical characteristics of the image. To detect a pencil, a first statistical line transform is applied to transform the image into line space, and a second statistical score transform is applied to transform the image into pencil space. A dominant peak in pencil space 10 identifies the perspective pencil. In addition, a computationally efficient line summing technique is used for effecting sums of pixels along inclined target lines (or curves) through an image. The technique includes pre-generating partial sums, and summing along step segments of a target line using the partial sums.

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